

Pleas Amend Claims 2-5 as follows:

1. (Original) A mixer comprising:

first and second transistors which constitute a balanced oscillation circuit with their respective emitters connected with each other;
a third transistor whose emitter is connected with the emitter of the first transistor; and
a fourth transistor whose emitter is connected with the emitter of the second transistor, wherein
a first signal is inputted between a base of the third transistor and a base of the fourth transistor in a balanced way;
wherein the third transistor and the fourth transistor mix an oscillation signal with the first signal; and
wherein a second signal is outputted from the third transistor and the fourth transistor in a balanced way.

2. (Currently Amended) The mixer according to Claim 1, wherein

there are a first parallel resonant circuit which determines an oscillation frequency and a second parallel resonant circuit which resonates with the second signal;
wherein the first parallel resonant circuit is connected between an collector and ~~the~~ base of each of the first and second transistors; and
wherein the second parallel resonant circuit is connected between a collector of the third transistor and a collector of the fourth transistor.

3. (Currently Amended) The mixer according to Claim 1~~2~~, wherein

the first parallel resonant circuit comprises ~~is made up of~~ a first capacitor, and first and second inductors which are serially connected with each other and connected in parallel with the first capacitor;
wherein a point of connection between the first capacitor and the first inductor is connected with the collector of the first transistor;
wherein a point of connection between the first capacitor and the second inductor is connected with the collector of the second transistor;

wherein the second parallel resonant circuit ~~comprises is made up of~~ a second capacitor, and third and fourth inductors which are serially connected with each other and connected in parallel with the second capacitor;

wherein a point of connection between the second capacitor and the third inductor is connected with the collector of the third transistor;

wherein a point of connection between the second capacitor and the fourth inductor is connected with the collector of the fourth transistor; and

wherein supply voltage is fed to a point of connection between the first inductor and the second inductor and a point of connection between the third inductor and the fourth inductor.

4. (Currently Amended) The mixer according to Claim 1, wherein there is a composite resonant circuit which has parallel resonance frequencies in the respective vicinities of an oscillation frequency and the second signal;

wherein a the collector of the first transistor and ~~the~~ a collector of the third transistor are connected with each other;

wherein a the collector of the second transistor and a the collector of the fourth transistor are connected with each other; and

wherein the composite resonant circuit is connected between the collectors of the first and third transistors and a the base of the second transistor as well as between the collectors of the second and fourth transistors and a the base of the first transistor.

5. (Currently Amended) The mixer according to Claim 4, wherein the composite resonant circuit comprises:

a first capacitor;

~~a serial circuit which contains is made up of~~ a second capacitor and first and second inductors and is connected in parallel with the first capacitor with the second capacitor located between the first and second inductors; and

third and fourth inductors which are serially connected with each other and connected in parallel with the second capacitor;

wherein the first and second capacitors and the first and second inductors generate parallel resonance in the vicinity of the oscillation frequency;

wherein the second capacitor and the third and fourth inductors generate parallel resonance in the vicinity of the second signal frequency;

wherein athe point of connection between the first capacitor and the first inductor is connected with the collectors of the first and third transistors;

wherein the point of connection between the first capacitor and the second inductor is connected with the collectors of the second and fourth transistors; and

wherein supply voltage is fed to athe point of connection between the third and fourth inductors.

6. (Original) The mixer according to Claim 5, wherein the second signal is outputted from both ends of the second capacitor.